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Correlations between Multiplicity and Transverse Momentum in *pp*, *p*Pb, and Pb–Pb Collisions at LHC Energies in the Dipole-Based Monte Carlo String Fusion Model

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Abstract—Correlations between the multiplicity and transverse momentum in *pp*, *p*Pb, and Pb–Pb collisions at LHC energies are studied in the framework of the string–parton Monte Carlo model in which elementary collisions are implemented as interactions of color dipoles. The contribution of different mechanisms to the $\langle p_T \rangle_{N_{\rm ch}} - N_{\rm ch}$ correlation function is analyzed.

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